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IN CONTRAST TO THE TRADITIONAL EMPHASES ON ROTE LEARNING AND FACT ACCUMULATION, RECENT TRENDS EMERGING FROM EDUCATIONAL RESEARCH STRESS THE DEVELOPMENT OF THINKING PROCESSES SUCH AS THE ABILITY TO REASON ABSTRACTLY AND TO SYNTHESIZE. CHILDREN WORKING INDEPENDENTLY OR IN GROUPS MOVE THROUGH A DISCOVERY LEARNING CURRICULUM IN WHICH THE TEACHER PROVIDES OPPORTUNITIES FOR SENSORY EXPLORATION AND MANIPULATION OF CONCRETE MATERIALS. THE CHILDREN ARE EXPECTED TO TRANSFER THIS LEARNING TO MORE COMPLEX LEVELS. THE CHILDREN THEMSELVES ARE RECOGNIZED AS BEING COMPLEX ORGANISMS, WHOSE LEARNING DEPENDS UPON THE INTERRELATIONSHIP OF EMOTIONAL, SOCIAL AND INTELLECTUAL PROCESSES. THEREFORE, THE CHILD'S IMAGE OF HIMSELF ASSUMES NEW IMPORTANCE SINCE IT AFFECTS HIS ABILITY TO LEARN THROUGH HIS SCHOOL CAREER. TECHNOLOGICAL AIDS SUCH AS TELEVISED AND COMPUTER ASSISTED INSTRUCTION WHICH ALLOW A CHILD TO PROGRESS AT HIS OWN RATE HELP HIM TO DEVELOP AND PRESERVE A POSITIVE SELF-IMAGE. SIMILARLY, GROUP INTERACTION, GUIDED BY AN UNDERSTANDING TEACHER, CAN PROVIDE FOR MOTIVATION AND SUPPORT BY CLASSMATES. THIS DOCUMENT IS AVAILABLE FROM THE DEPARTMENT OF ELEMENTARY-KINDERGARTEN-NURSURY EDUCATION, NATIONAL EDUCATION ASSOCIATION, 1201 SIXTEENTH STREET, N.W, WASHINGTON, D.C 20036. (MS)

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INDEPENDENT AND GROUP LEARNING

by

MARIE B. DICKINSON

AS INFORMATION about learning accumulates, responsibility for the translation of what is known into opportunities for learners increases. But the translation is thorny with philosophical and practical problems. It is retarded by the rigidities of tradition and the misinterpretations or initial rejection of new ways of thinking about the roles of the teacher, the content, and the learners in classroom processes.

Nevertheless, the feeling of responsibility for closing the gap between knowledge and practice is widespread and increasing. Empirical knowledge, made explicit by articulate interpreters, is shaping opportunities to learn; and the school setting is taking on a quite different atmosphere.

Some directions for change are foreshadowed:

- The physical setting has several new features.
- The teaching styles for furthering both independent and group learning are structured more deliberately.
- The climate, optimally charged with emotional involvement and intellectual commitment, is made safe for expressing and testing ideas.
- No learner is allowed to drift aimlessly, out of touch with his powers of intellectual and emotional responsiveness.
- Motivation to learn is increased by having the pupil participate in directing his own learning.
- A desire to learn and the ability to work creatively are cultivated so the learner can grow in self-understanding, solve problems, make decisions, and achieve other competencies that will improve man's environment.

Discernible in the picture of improved educational opportunities are provisions for self-selection and a concern that the learner's intellectual activities be meaningful. Practices that are incompatible with these trends—such as rote learning, valuing facts for their own sake, repetitous drill, and excessive emphasis on memorizing—will lose their grip as the outline of a new pedagogy evolves.

A New Frame of Reference for Teaching

Independent learning is complex and by no means completely understood (Murphy, 1962). A generalized description of learning behavior that reflects many systematic studies is the familiar one of a young child becoming acquainted with his world of people and things. Its many

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dimensions that are relevant in developing learning activities for elementary school children create a frame of reference for teaching.

A young child opens all his senses to the world, selecting things to observe, explore, and test. He enjoys taking risks and practicing new skills. He is intrigued by a new thing, eager to find out how it works and what he can do with it. Through such adventures, the child often intuitively grasps meanings and perceives the limits of safe exploration. He learns to express the meanings he discovers in the vocabulary and language patterns used by those in his immediate environment, be they meager or expansive. Thus he progresses in the realm of symbolic processes into which he was initiated as an infant when he learned to interpret the intonations, gestures, and facial expressions of those who cared for him.

Learning at all age levels is a process of perceiving, selecting for attention, and progressively differentiating or making finer discriminations. As the learner becomes more active in the process, he becomes aware of what is available in his particular environment and achieves more and more complexity in structuring. In this favorable environment he finds learning pleasurable and intrinsically rewarding. He learns that he is valued as a person and is expected to do well. He learns how to learn.

However, the immediate family and others who comprise the setting for a young child's learning determine whether—

- The impulse to explore and learn is rewarded or frustrated.
- The variety of things needed for sensing and relating are accessible.
- Human responsiveness is available to stimulate and extend his efforts and to help him acquire the language needed to symbolize his experiences.
- Learning is continuous, meaningful, and pleasurable.

The role of guided experiences in early learning is being newly perceived (Almy, 1966; Ausubel, 1965; Bloom, 1964; Hunt, 1961). From investigations of the nature of individual learning emerges the conviction that opportunities for all children to learn and to direct their own learning can be improved in certain fundamental ways. Education as guided experiences in personal inquiry changes the focus of the school's responsibility. Since much of this responsibility devolves upon the teacher, the challenge to education in these early years is "helping the child build an image of himself as a discoverer of a way of life within which one expects to move from the known to the unknown, from the mystifying to the comprehensible" (Biber, 1964).

The use of child study techniques and observations of what happens in the instructional processes prepares the teacher to play a key role in improving opportunities for learning (National Education Association, 1966; Passow, 1963; Prescott, 1957). Teaching theory encompasses feeling, doing, and thinking as learning processes. For instance, the way a child feels about himself as a learner is conceived as a process of learning the expectations that others have of him as a learner. This, in turn, seems to make large contributions to his success and to his progress in his total learning (Coladarci, 1966). Likewise "doing" with concrete objects, gadgets, and materials has been found essential in helping the child express meanings in such abstract processes as oral and written language, interpretative reading, and inquiry in mathematics and science (Ausubel, 1965, p. 57). New urgencies extend ways of thinking about how factual materials and academic skills may be used to grasp principles of further knowing. As he achieves these ways of thinking, a learner discovers the interrelationship of knowledge and develops flexibility in transferring what he knows from one subject to another (Tyler, 1964). Thus new perceptions modify or fit into the individual's structure of understandings. Teaching that helps children grow in these processes calls for a change in the activities in which learners spend their time, in the materials and tools of instruction, and in the role of the teacher. Creating the frame of reference for such teaching is discussed in the sections that follow.

Some Interrelationships Among Learning Processes

Children of school age have always been expected to learn to work independently; and after the primary years, it was assumed that independence was indeed achieved. In behavioral terms the learner is usually expected to—

- Follow oral and printed directions.
- Work independently of the teacher.
- Accomplish the goal of the learning activity.
- Assume responsibility for constructive use of materials and time.
- Do the things a good citizen should do, whether or not there is supervision.

The above statements describe the results of learning, not the processes through which they might be attained. Although gaps in knowledge hinder the attempt to translate what is known into learning opportunities, more information on these processes and their interrelationships is available than is generally used.

Child studies bring more sharply into focus aspects of personality structure that determine what a child can achieve in an instructional situation. For instance, it is accepted that emotional and social learning are inseparable from cognitive processes. This fact is apparent in the emotional impact on a young child's social behavior and openness to new experiences when he is separated

from his mother for early educational opportunities (Heinicke and Westheimer, 1965).

Another example of the interrelatedness of emotional, social, and intellectual processes is observed in the child's need for security, recognition, and warmth as he meets the cultural imperative of learning to read and write. From his experiences with success or failure in the primary years a child develops an image of himself as one who can or cannot learn; he lives up to the expectations that he and others have that he will achieve or fail. The effects on social behavior and motivation for further symbolic learning are long-lasting.

The sharper focus on teaching-learning processes today may help to translate knowledge about the interrelationships among learning processes and improve children's opportunities to bring the full resources of ego processes to learning to read, write, spell, understand mathematics, and conceptualize in other realms of knowledge (Bower, 1966). Studies of the learning of disadvantaged children have underscored the necessity of having varied experiences accompanied by opportunities to abstract in oral language (talk about) the meanings of these experiences (Robison and Mukerji, 1965). Lack of this kind of functioning frustrates a child's attempts to learn to read and write.

Another of the growing edges in what may become a new pedagogy concerns itself specifically with learning to think. It is approached through the structuring of teacher-child interaction processes so that children can learn how to abstract, to use inductive methods in approaching questions and problems, and to make discoveries on their own. This kind of learning will enable them to cope with the problems of future change and to meet on increasingly more complex levels the challenges to improve human conditions.

Independent Learning Activities

The concept of learning as interrelated processes brings new insights to the reexamination of learning opportunities. For example, it is wise to examine the kinds of processes called for in many materials designed for independent learning. As soon as children can read and write, it is often assumed that they have no further need for sensory experiences, such as manipulating and experimenting with gadgets and materials. Providing opportunities for developing effective oral language that utilizes the information, meanings, and intuitions that are becoming part of the pupil's conceptual framework is considered unnecessary. As a result, next steps in learning may overwhelm rather than challenge a learner.

Independent learning activities frequently take the form of work sheets or questions at the ends of chapters in textbooks. It is exactly here that information can become fragmented; rote learning, repetitive drill, and the memorization and recall of facts can be overemphasized; skill building can lose its relevance. Furthermore, the "more of the same" nature of many of these activities, usually tightly structured, reduces the variety of contacts with materials. Because little or no continuity or opportunity for involvement and creativity in learning is provided, motivation to learn is diminished.

A new model for children's learning activities is needed when the concept of learning views an independent activity as an opportunity for a child to interact with the materials and people available to him. He needs time to—

- Find relevance and anchor points for continuity in learning.
- Manipulate concrete materials in search of sensory discrimination and functional or causal relations.
- Toy with ideas in search of new relationships.
- Select skills to practice.
- Accomplish self-defined and group goals.
- Learn on his own.

In the new model the teacher is active and involved as needed to ensure that intervals of independent effort serve a child's commitment to learn. The teacher takes responsibility for initiating the processes in the classroom that provide continuity for each child. He helps a child see how a purpose may be served by delaying a decision and how even the failure of an idea may have value. He learns what to do to support and extend an individual's effort. He learns how to trust children's ideas and self-initiated activities. The teacher should—

- Arrange situations for experimenting, reflecting, reading, writing, and discussing.
- Ask questions that may lead to inferring, seeking further information, and applying what is known to new situations.
- Provide materials.
- Encourage self-selection.
- Help a child value his own questions.
- Discuss with him alternative ways to find information, to test ideas, and to evaluate results.
- Help a child respect and use facts as a means of learning, not as ends in themselves.
- Guide the selection of skills needing practice.
- Recognize when skills are being practiced as an inseparable part of the process of furthering learning.

Individualizing procedures with elementary school children in any age group begins with listening to an individual talk. Discover what he can talk about freely; look for the range of vocabulary, the kinds of metaphors and similes, the variety and completeness of sentence patterns; determine whether the child expresses his ideas and feelings spontaneously and imaginatively. Information from such an encounter aids a teacher in match-

ing opportunities for learning to the individual's ability to process new information in a meaningful way. When acquainted with the experiences a child has had with concrete things, his concepts, the adequacy of his language to express concepts, and the process of thinking he is accustomed to use, the teacher can work toward developing the motivation necessary for maximizing learning opportunities. Examples of independent learning activities—such as *Independent Activities for Creative Learning* (Darrow and Allen, 1961)—while they cannot provide the continuity and meaningfulness stressed in this discussion, offer many practical suggestions that a teacher might incorporate in his management of materials and time. Matching independent activities to a child or a group can only be done by the teacher who continuously observes and guides the learning. For cognitive tasks, computerized techniques at student stations may offer assistance with certain of the problems of individualizing instruction.

Group Learning

One of the major contributions of the school is its provision for group living and learning. A child can sometimes reach his peers when teachers fail. Interests can be shared and awakened among members of a group. Support, enthusiasm, and encouragement are often found during group learning. Respect for one another's ability or understanding of some of the difficulties other learners face is achieved when more than one person is involved in a learning situation.

Group learning has many dimensions. It has traditional connotations and somewhat specialized meanings in the current dialogue on improving education. In the traditional sense the term was applied to any collection of children or youth in a classroom, with the teacher in charge of the learning. All pupils read from the same materials, listened to the same explanations and directions, wrote the same assignments, underwent the same tests of competency. Some succeeded and some failed. It was all a part of the game played in the classroom, often remote in content and meaning from life outside the school. To escape, one dropped out of school. The cost to individuals and society is beyond measure, yet group learning as mass teaching is still found in many classrooms. The comparative ease with which such educational procedures can be carried on enables this concept of learning to perpetuate itself; more demands are made of the learner than of the teacher or the conditions of learning. Furthermore, mass teaching can make highly visible those who "make the grade," a goal of great value in our culture.

Liberation from this approach, so costly in human terms, seemed possible when the values of individualizing instruction suggested grouping within a classroom. The idea held great promise: The teacher could observe individual behavior in different kinds of learning situations, differentiate the learning materials and activities, and aid in removing blocks to learning by identifying specific problems. Each child could work at his own pace on his specific problems whether he was working in a small group or independently.

The implementation of this idea seemed to get no farther than the primary grades and become no more pervasive than in the teaching of reading and the formation of committees for work in the social studies. Any number of reasons for failure of the practice to realize its potential might be offered. Among them would surely be the lack of commitment to the idea and failure to understand that change in physical arrangements and scheduling should be accomplished by changes in the relationship of the teacher to a learning group and to individuals in the group working independently. Gaps in our knowledge about learning seem to prevent using what is known and intuited.

What happened in practice did not dim its promise, however. Modifications of the conditions for learning, teaching process, and learning materials resulting from current intensive investigation seem again to enhance the idea of grouping for specific purposes within the classroom. The aim of these inquiries is to find ways of structuring learning opportunities to achieve maximum relevance to learners and involve them intellectually and emotionally with the materials of learning.

Another dimension of group learning is the concept of a school class as a cohesive social group, not just a collection of individuals with about the same age-grade needs pursuing independent and group activities. Dynamics of the group and cooperative procedures are utilized to help children learn from one another, grow in social awareness, further group commitments, and strengthen individual competence in academic skills.

Conditions for learning are optimized when grouping is exploited for learning:

- Each learner finds a place in the group and a way to make respected and useful contributions.
- The experience of participating in a cohesive group has a motivating effect upon the members.
- Nonverbal as well as verbal modes of communication develop.
- Each group member discovers means of self-appraisal.
- Each participant learns to see himself as a constructive member and one who is expected to do well.
- Each has an opportunity to learn from others, to assist and be assisted in learning.
- Each learner hears and begins to evaluate new language patterns.
- Each learns to appreciate and value differences.

In the kind of climate nurtured by group processes

it is safe to learn: Children share with one another and with the teacher their conceptions and preconceptions. Many opportunities to test ideas develop from the openness and nonjudgmental responses of the teacher, who participates as a member of the group. The dynamics of group processes offer the warmth and support that nourish both independent and group learning.

The potential of group learning as a means of using group dynamics to further learning and as a procedure for giving instruction for specific purposes is still largely unrealized. The concept, however, has a voluminous research literature and descriptions of successful practice with groups of all ages. In elementary education it is crucial that this kind of knowledge about learning coexist with current pressures for paper-and-pencil competencies and for the development of cognitive skills in electronic study carrels.

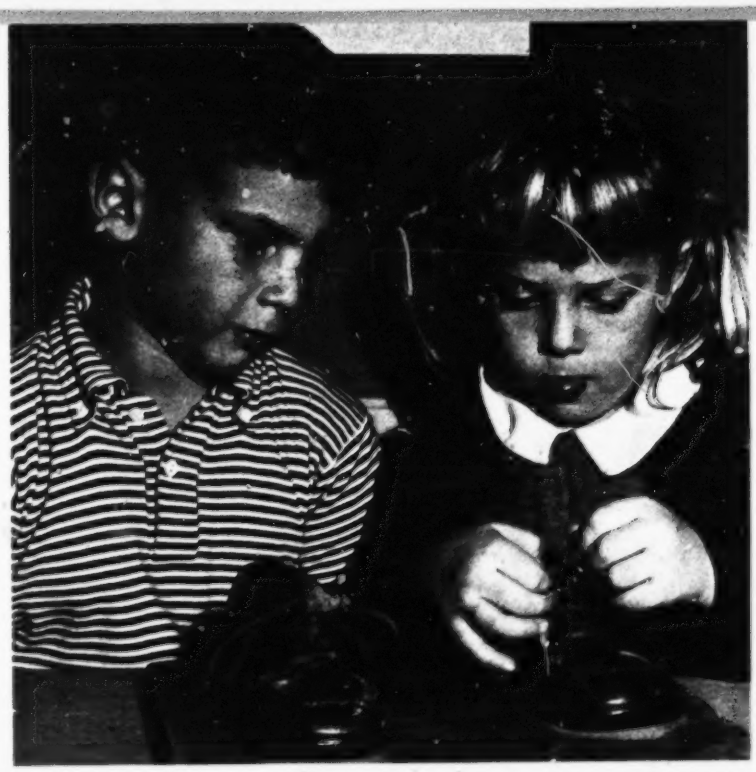
Researchers who are extending the dimensions of learning do not advocate the systematic elimination of classroom practices documented by research and knowledge (Frazier, 1963; Kelley, 1966), as some practitioners are doing. Now is the time to be vigilant, to protect children from undue pressures and help them to be open to experience and new ideas. Some innovations are fads and techniques that tend to close avenues of thinking and condition perceptions of the universe, knowledge, and feeling.

Knowledge is being extended along two other dimensions of group learning. One of these has to do with methodologies effective in mass learning. The other examines the teaching-learning interaction processes in the classroom.

Investigations of mass learning have frequently dealt with such activities as listening to a lecture, viewing TV lessons, or reading prescribed materials for prescribed outcomes. The size of the group and the physical or psychological distance of learners from the teacher allowed little or no immediate feedback of information to assist in modifying the teaching process, materials, or learner activities. Because teachers felt inadequate in large group instruction, studies were initiated around such concerns as optimal group size, alternative methods of presenting information, and the development of adequate evaluation techniques.

Television and other electronic devices now provide systems of informational flow for use in mass instruction, but research yet to be done will define their role and effectiveness with groups. Technological tools themselves are empty of content, but they can be powerful aids in group learning situations when their specific contributions have been determined. Content of programs to be electronically stored and retrieved must be identified, organized, and presented in ways uniquely fitted to the tool and to the conceptual development of a particular group of learners.

Investigations of interaction processes in the classroom have added substantial knowledge



about the effect on learning of teacher attitudes and teacher characteristics, and they have provided tools for the observation and coding of interaction processes. An additional line of inquiry focuses specifically on cognitive processes (Taba, 1963; Taby and Elzey, 1964; Taba, Levine, and Elzey, 1964). The aim is to find out whether the curriculum can be organized and teachers trained in such a way as to make it possible for children in the elementary school to learn how to raise the level of their thinking.

These investigations are carried out with children in groups, with knowledge of the individual children as one of the considerations in developing teaching strategies. A finding that confirms previous information about learning is that a continued emphasis on concrete operations in the primary years provides a foundation for the more abstract formal operations in the later years of elementary school. Many implications emerge from such studies and add impetus to changing the focus of teaching. Making previously organized curriculum content available to children for memorizing is giving way to structuring the processes of teaching in ways that make it possible for children to learn specific skills in thinking.

Summary

Making practical applications of research findings on independent and group learning has been in process a long time. More knowledge is available than is being used. One hazard in integrating new information is losing sight of those facts that have long been accepted but not practiced in many classrooms. The challenge is to continuously evaluate the use of classroom time in developing more adequate human beings.

Independent and group learning supplement each other; they provide variety in the day's activities; they foster unique skills and at the same time strengthen common learnings; and each gives direction to the other but can be completely separate.

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